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EXAMINER

CHOI, WILLIAM C

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 19, 20, 25, 28, 32 and 35 are rejected under 35 U.S.C. 102(e) as being anticipated by Sakamaki et al (U.S. 6,836,304 B2).

In regard to claims 19 and 20, Sakamaki et al discloses a method of manufacturing an image display device which comprises an image display panel having one or more image display cells isolated from each other by partition walls (column 15, line 24 – column 17, line 14, Figures 1 & 3A-3D, “60”) in which two kinds of particles having a pale bright color and a deep dark color (column 14, lines 31-35) or other than white color and a black color (column 14, lines 39-41), and having different charge characteristics (column 14, lines 31-35, re: conductive & insulative), are sealed between a transparent substrate and an opposed substrate (column 14, lines 52-54, Figure 3D, “50a, 52a”), and, in which the particles, to which an electrostatic field produced by a pair of electrodes having different potentials is applied, are made to fly and move so as to display a monotone or color image (column 17, lines 8-25), wherein the method

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comprises: filling an amount of the particles in spaces constituting the image display cells isolated by the partition walls (column 16, lines 10-14 & 34-45, Figures 3A & 3B); removing unnecessary particles remaining on the partition walls in the filling (column 16, lines 46-54); stacking the transparent substrate and the opposed substrate via the partition walls (Figure 3D) and applying a sealing agent at a peripheral portion of the substrate so as to make an atmosphere between the transparent substrate and the opposed substrate uniform (column 16, line 60 - column 17, line 2); and connecting a circuit for displaying the image to the electrode so as to form a module (column 17, lines 5-25).

Regarding claims 25 and 32, Sakamaki et al discloses wherein an average particle diameter of the particles is 0.1-50 μm (column 47, line 1, re: 30 μm).

Regarding claims 28 and 35, Sakamaki et al discloses an image display device manufactured according to said method (Figure 3D).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 21, 39 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakamaki et al as applied to claim 19 above, and further in view of Ota (U.S. 3,668,106).

In regard to claim 21, Sakamaki et al discloses as set forth above, and two kinds of particles having a white and black color (column 14, lines 31-35), but does not specifically disclose wherein said particles are made to fly and move so as to display a color image via a color filter provided to the transparent substrate constituting a front panel.

Within the same field of endeavor, Ota teaches that it is well known in the art of electrophoretic display devices to display color images using color filters provided to the transparent substrate (column 10, lines 52-57). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made for said particles of Sakamaki et al to fly and move so as to display a color image via a color filter provided to the transparent substrate constituting a front panel, since Ota teaches that it is well known in the art to do so.

Regarding claim 39, Sakamaki et al discloses wherein an average particle diameter of the particles is 0.1-50 μm (column 47, line 1, re: 30 μm).

Regarding claim 42, Sakamaki et al discloses an image display device manufactured according to said method (Figure 3D).

Allowable Subject Matter

Claims 22-24, 26, 27, 29-31, 33, 34, 36-38, 40 and 41 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to teach a combination of all the claimed features as presented in claims 22, 29 and 36: a method of manufacturing an image display device as claimed, specifically wherein an apparent volume in a maximum floating state of the liquid powders is two times or more than that in non-floating state.

The prior art fails to teach a combination of all the claimed features as presented in claim 23, 30 and 37: a method of manufacturing an image display device as claimed, specifically wherein a time change of the apparent volume of the liquid powders satisfies the following formula: $V_{10}/V_5 > 0.8$.

The prior art fails to teach a combination of all the claimed features as presented in claim 24, 31 and 38: a method of manufacturing an image display device as claimed, specifically wherein an average particle diameter $d(0.5)$ of a particle component constituting the liquid powders is 0.1-20 μm .

The prior art fails to teach a combination of all the claimed features as presented in claim 26, 33 and 40: a method of manufacturing an image display device as claimed, specifically wherein a difference between surface charge densities of the two kinds of particles measured by utilizing same carrier and in accordance with a blow-off method is $5 \mu\text{C}/\text{m}^2$ - $150 \mu\text{C}/\text{m}^2$ in an absolute value.

The prior art fails to teach a combination of all the claimed features as presented in claim 27, 34 and 41: a method of manufacturing an image display device as claimed, specifically wherein the particles are particles in which the maximum surface potential, in the case that the surface of particles is charged by a generation of Corona discharge

caused by applying a voltage of 8 KV to a Corona discharge device deployed at a distance of 1 mm from the surface, is 300 V or greater at 0.3 second after the discharge.

Response to Arguments

Applicant's arguments with respect to claims 19-21, 25, 28, 32, 35, 39 and 42 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William C. Choi whose telephone number is (571) 272-2324. The examiner can normally be reached on Monday-Friday from about 9:00 am to 6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Mack can be reached on (571) 272-2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/William C. Choi/
Primary Examiner, Art Unit 2873
June 17, 2008